



Western Heatwave Event: 2020

October 20, 2020

WECC Staff

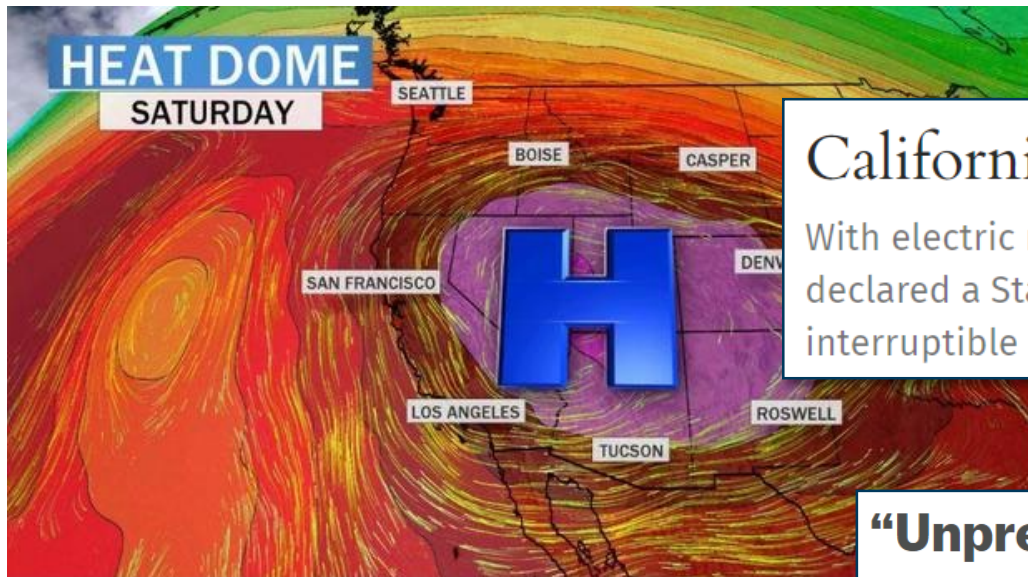
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- All WECC meetings are conducted in accordance with the WECC Antitrust Policy and the NERC Antitrust Compliance Guidelines
- All participants must comply with the policy and guidelines
- This meeting is public—confidential or proprietary information should not be discussed in open session
- WECC strives to ensure the information presented today is accurate and reflects the views of WECC. However, all interpretations and positions are subject to change
- If you have any questions, please contact WECC's legal counsel

Western Heatwave

August 2020 was the world's second-warmest August on record, NOAA reports

The year 2020 has more than a 99.9% chance to rank among the five warmest years since record keeping began.



California ISO calls for load shedding

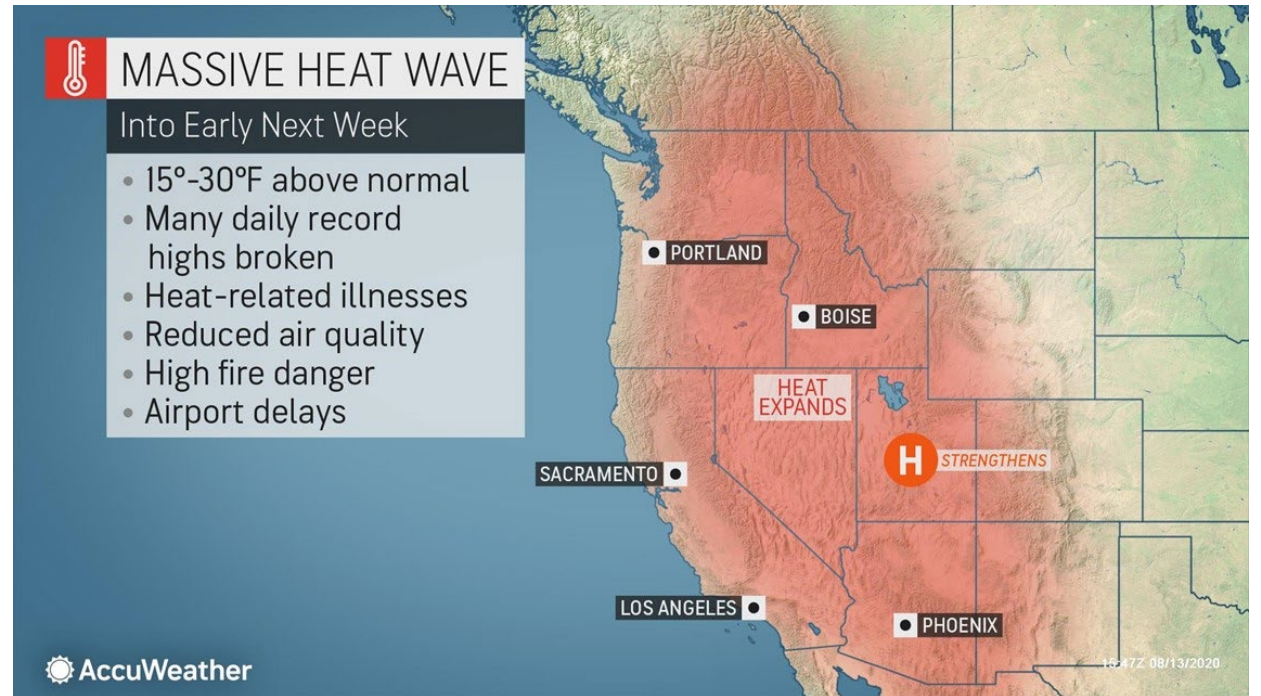
With electric reserves projected to fall below 5%, the California Independent System Operator declared a Stage 2 power emergency Monday afternoon and called upon utility companies to ask interruptible load customers to shed 740 Mw of electricity demand.

“Unprecedented”: What’s behind the California, Oregon, and Washington wildfires

The size, speed, and timing of the wildfires, coupled with the Covid-19 pandemic, have created a unique disaster.

August Heatwave Event

- Extremely hot conditions across the West
- Near-record demand levels in California
- 1,087 MW of firm load shed on Aug 14
- 692 MW of firm load shed on Aug 15
- WECC Summer Peak Load occurred on August 18, Hour Ending 15, 161,350 MW



Source: <https://www.abc10.com/article/weather/accuweather/heat-wave-weather-forecast-western-us/507-f22bddea-cbed-4122-9828-0d60ae22a887>

WECC Heatwave Event Analysis

- Supplement, not duplicate, CAISO investigation
- Interconnection-wide approach
- Utilizes WECC's [Event Analysis Process](#) as framework
- Includes assessment of
 - Resource adequacy
 - Transmission system performance
- Goal – document findings and recommendations prior to WECC Board meeting on Dec 8/9

Where We Are

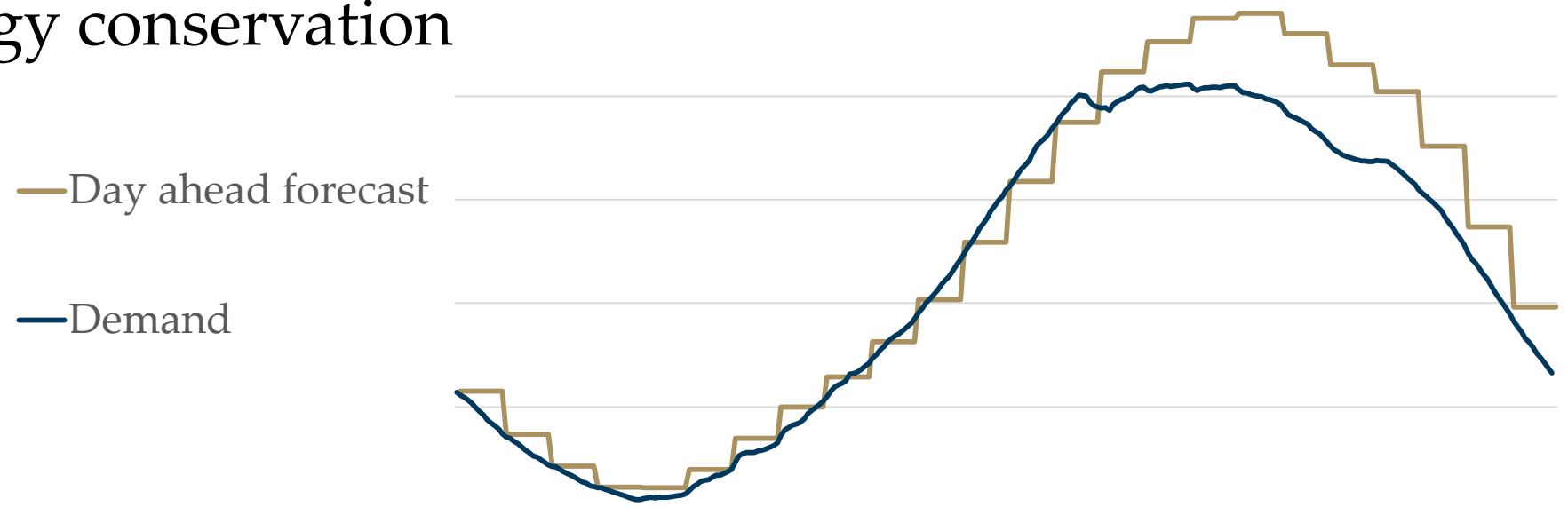
- Data request issued to RCs and BAs on September 4
- Data received on September 25
- Sequence of events completed
- WECC Event and Performance Analysis Subcommittee (EPAS) review on October 7
- Cause Code Analysis underway
- Reviewing the data

WECC Situation Awareness

- WECC's SA role
 - Real time monitoring
 - Forecasts and actuals
 - Significant stages and energy emergencies
 - Wildfires
 - Stay connected with entities
 - Maintained almost constant contact with entities through events
 - Inform WECC and NERC of significant stages

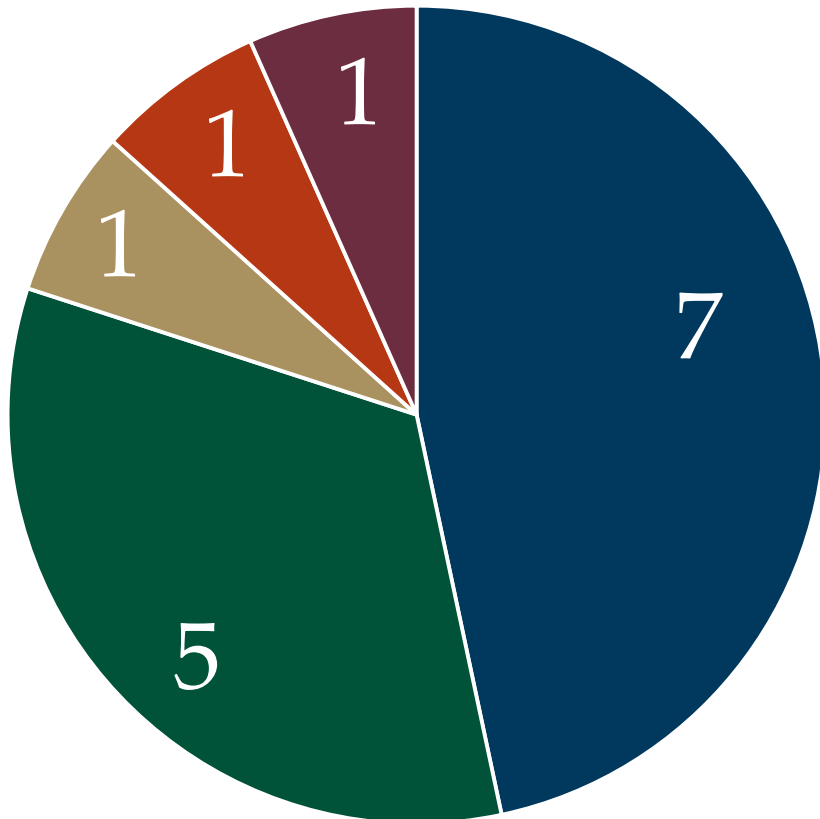
WECC Situation Awareness: Observations

- Communication from the RCs
- Western Interconnection 2020 peak demand
 - Occurred on Aug 18, 2020 in the mid afternoon
 - 162,000 MW
- Impacts of energy conservation



WECC Situation Awareness: Observations

OE-417 Reports by Category

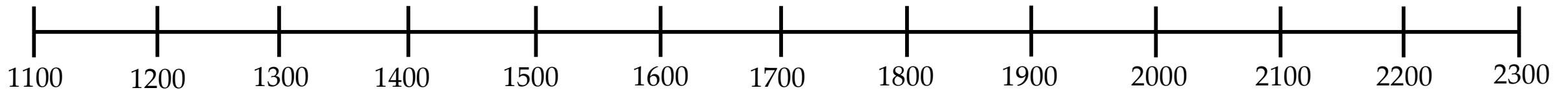


- Public appeal to reduce the use of electricity
- Firm load shedding of 100 Megawatts or more implemented under emergency operational policy
- Loss of electric service to more than 50,000 customers for 1 hour or more
- Electrical System Separation (Islanding)
- Unplanned evacuation from its Bulk Electric System control center facility for 30 continuous minutes or more.

WECC Situation Awareness: Observations

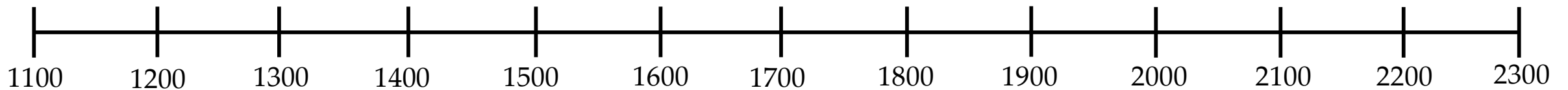
August 14, 2020 – EEAs

BA1



WECC Situation Awareness: Observations

August 15, 2020 – EEAs

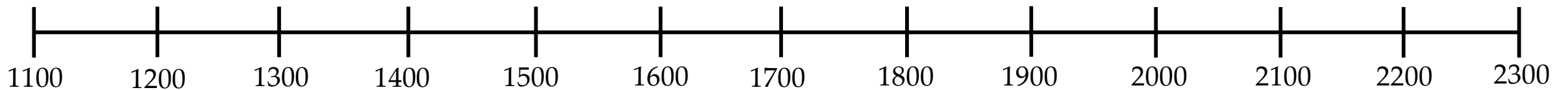


WECC Situation Awareness: Observations

August 16, 2020 – EEAs

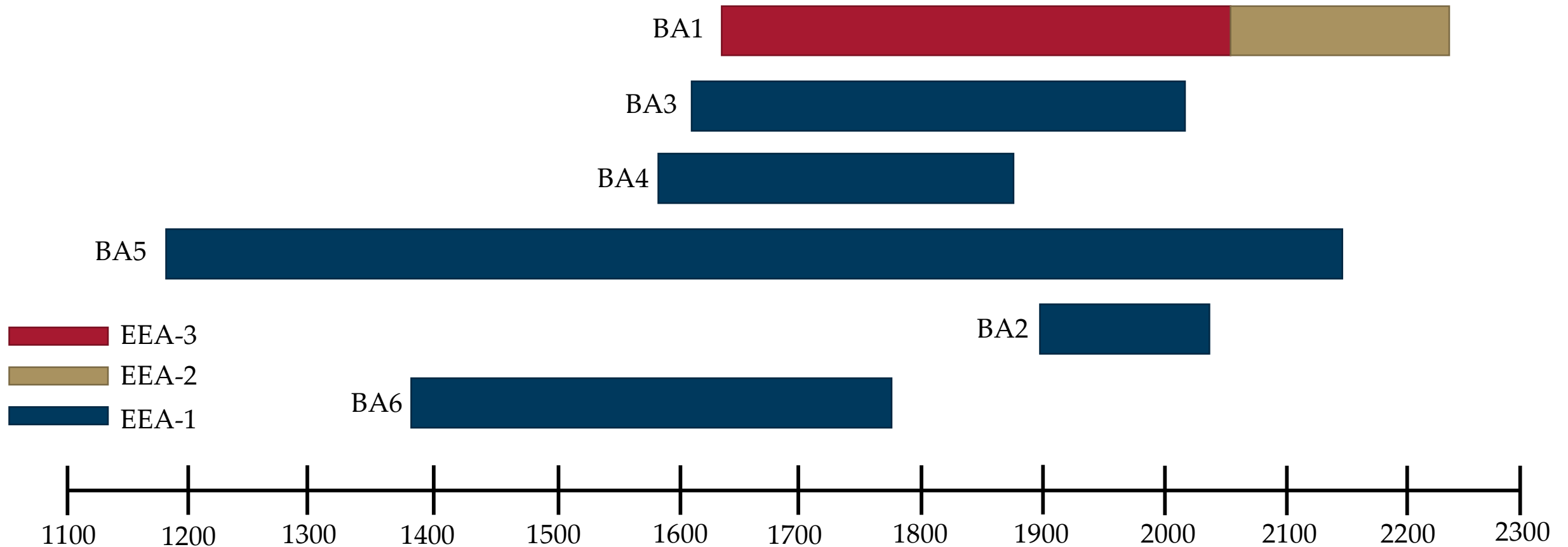
BA1 

-  EEA-3
-  EEA-2
-  EEA-1



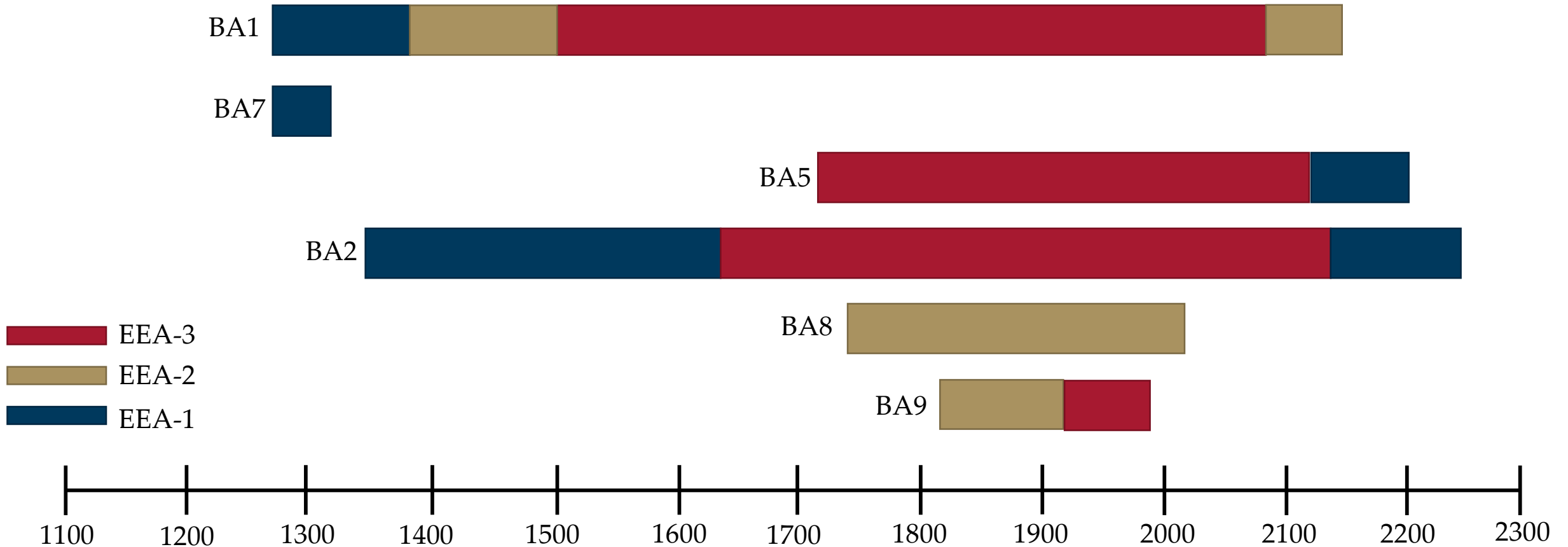
WECC Situation Awareness: Observations

August 17, 2020 – EEAs



WECC Situation Awareness: Observations

August 18, 2020 – EEAs

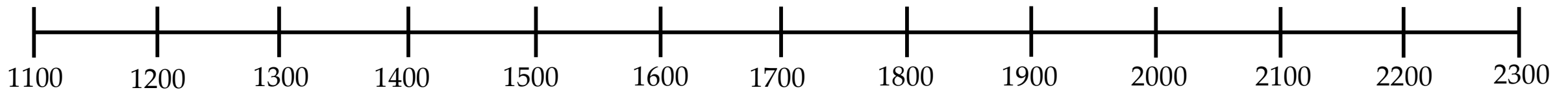


WECC Situation Awareness: Observations

August 19, 2020 – EEAs



- EEA-3
- EEA-2
- EEA-1



WECC Event Analysis Overview

Notification & Information Gathering

- Situation Awareness
- Entity outreach

Reporting (Brief Reports)

- Event Analysis
- Entity Outreach
- Stakeholder Participation

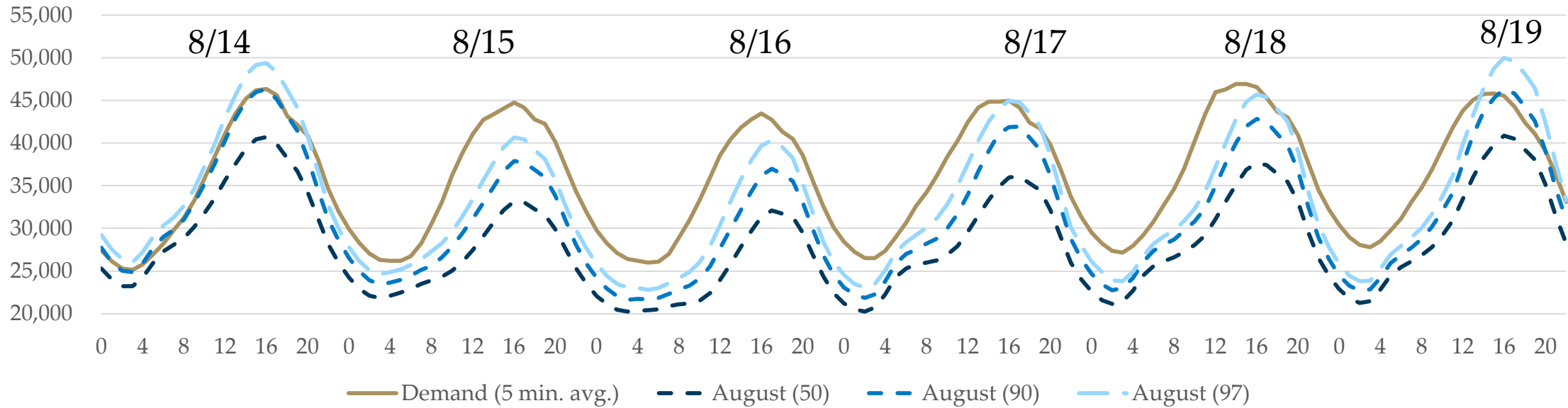
Evaluation & Analysis

- Event Analysis
- Entity Outreach
- Cause Coding

Outreach & Sharing

- Lessons Learned
- Stakeholder Committees

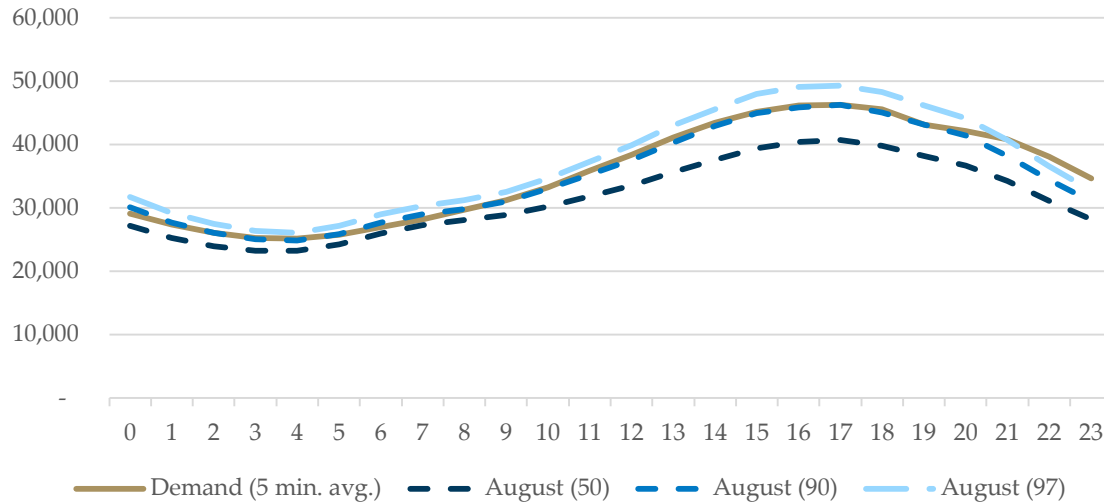
Actual Demand vs Forecast



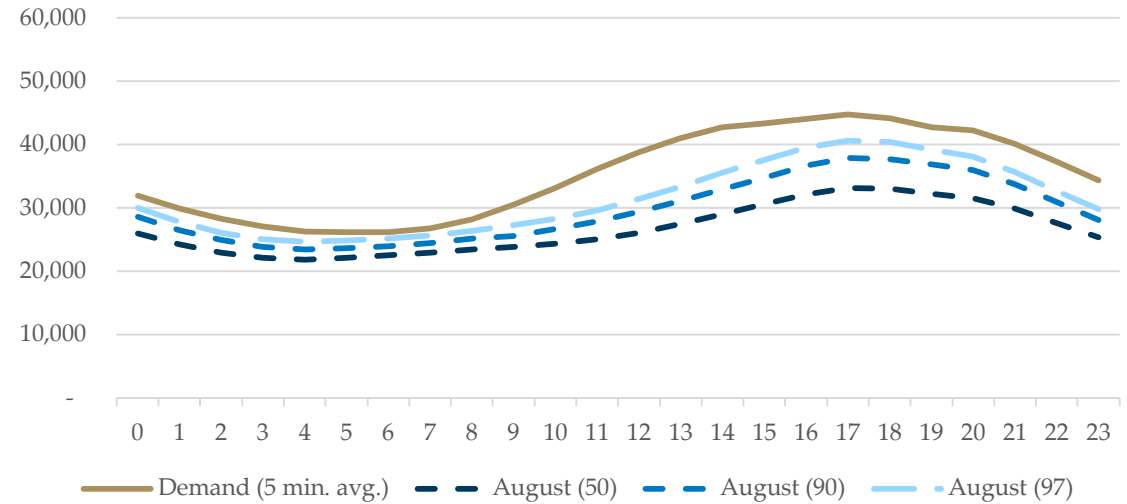
- Looking to understand where the actual demand fell on our forecast distribution

Actual Demand vs Forecast

CAISO 8/14/2020

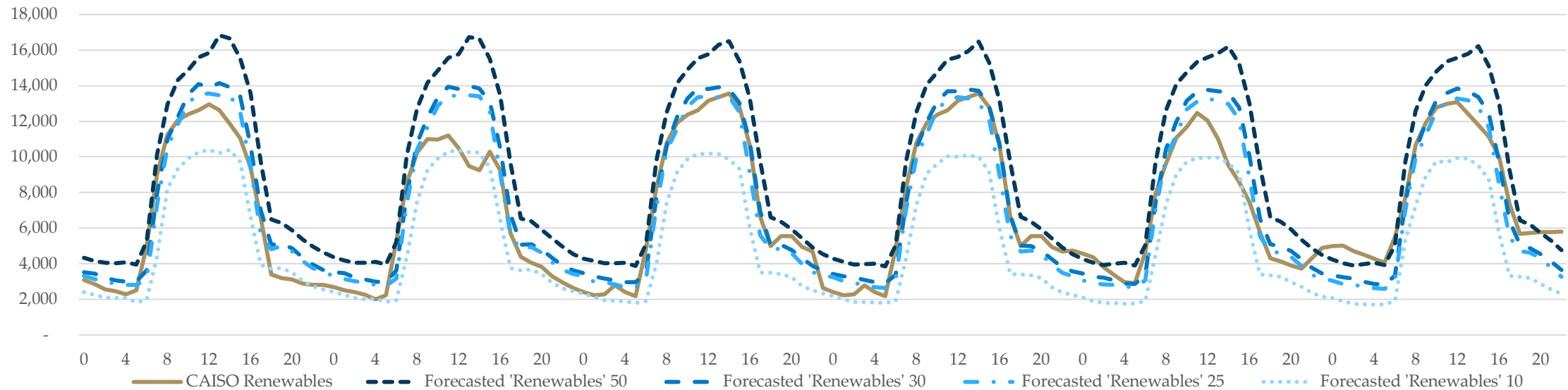


CAISO 8/15/2020



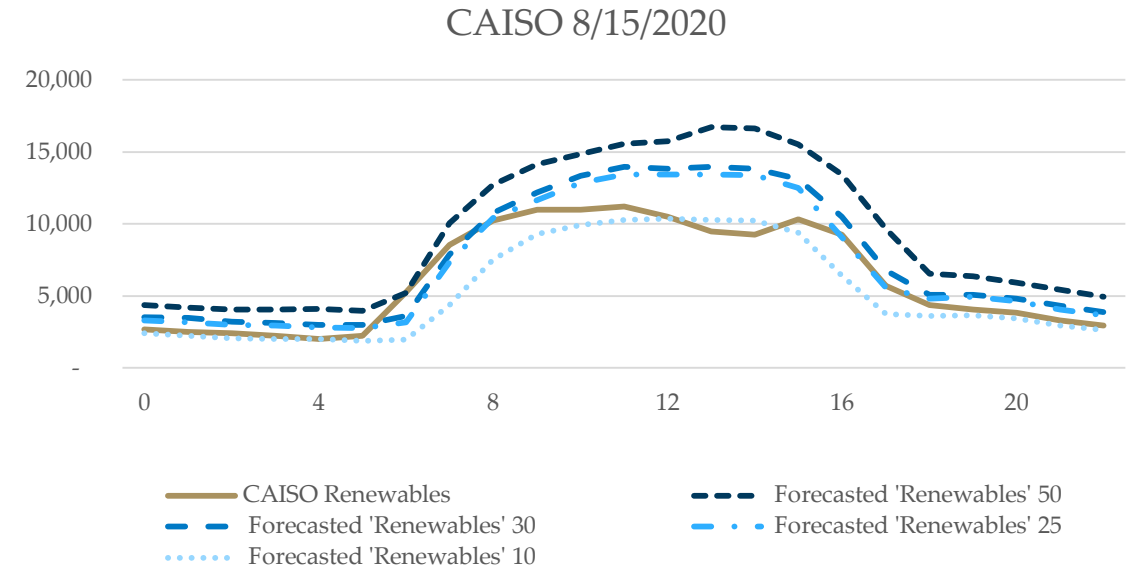
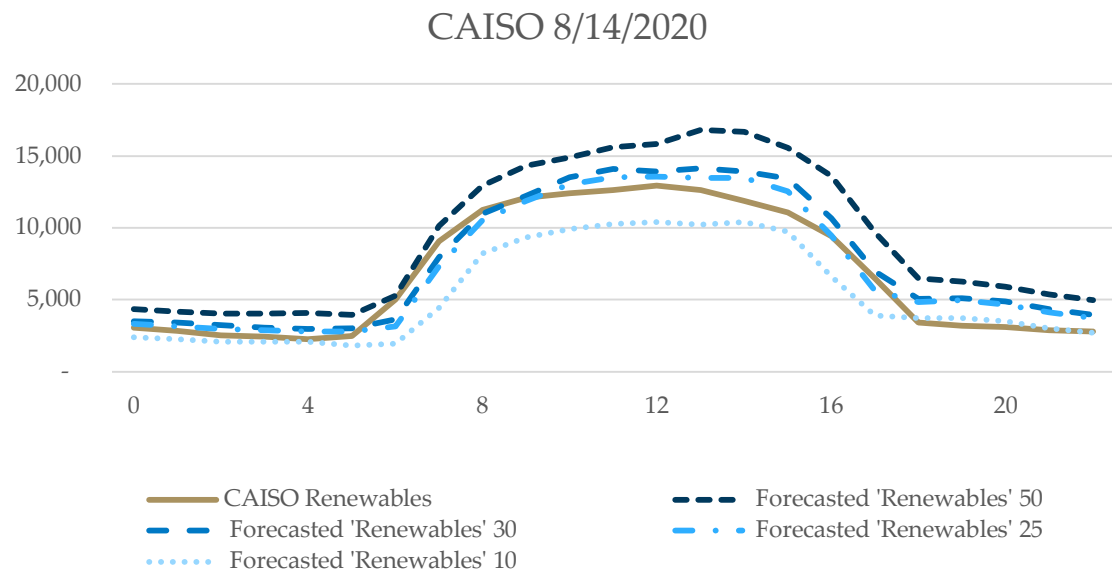
- Focus in on the days of load shed.

Actual Renewable vs Forecast



- Also need to understand where actual generation fell on the forecast distribution of all types of resources.

Actual Renewable vs Forecast



- Again, focused in on the days of load shed.

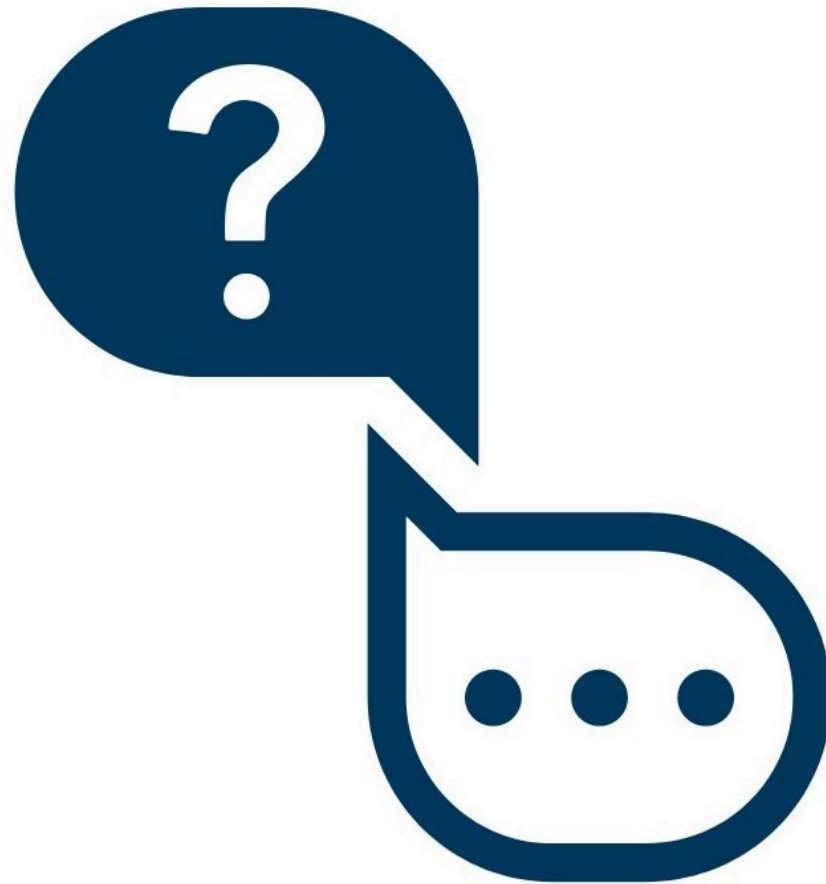
Western Interconnection

- Requested this type of data from all Balancing Authorities.
- Want to understand what each area was facing at the same hours of the load shed event.
- More than just understanding if there was energy available, also need to understand if there was transmission available to move the energy.

Resource Adequacy Outcomes

- Better understanding of how the system is impacted by a heat wave event.
- If there are any takeaways WECC can glean to improve the forecasting of variability in the system.

Question and Answer



Next Heatwave Event Webinar

Join us November 11
for a final discussion on the



**Western Heatwave
Event—2020**





WECC

Electric Reliability and Security for the West

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